Message from Australia

Dear Jan — Congratulations for a well done and well presented restyled Elektor Electronics. I am glad you have done this. It gives our profession and interesting hobby a new life!

At this day and age of ICT (Information and Communication Technology), more and more electronics magazines have dropped out, for example here in Australia we used to have three publications but now we are down to one (Silicon Chip) — when there were Electronics Australia and Electronics International Today).

Similarly in the UK we used to have Radio & Electronics World, Hobby Electronics, Maplin Electronics, Practical Electronics, Everyday Electronics (now known as Everyday Practical Electronics), ETI UK whereas today we are left with Elektor Electronics and Electronics World.

In the USA, we used to have Radio Electronics, Popular Electronics (merged as Poptronics), Electronics Now, Audio Xpress and Nuts & Volts. We are now left with Audio Xpress and Nuts & Volts. Audio Xpress specialises only on audio electronics areas.

There are now more computing magazines than electronics magazines. The fact is, it is easier to learn computing today than yesterday where only professionals could work on them as they were mainly mainframe computers. Today with desktop, laptops, and portable computers and Windows as opposed to MVS life in ICT is easier.

On the whole, I hope Elektor will draw young readers in with your restyled look.

Restyled alone is not a winner. Elektor has provided 're-interest' in the field of electronics. Every issue is getting more exciting. Reading is much more pleasant and topics published are superb! Excellent work from you and your team. For the record I have been subscribing to Elektor since 1974 when you first started. I believe I have every issue of Elektor.

Michael Ong

Like you we do not fail to observe the on-going slimming down of the market for specialist magazines and regret the demise and mergers of so many renowned magazines on electronics. However, we're holding our own and are proud to have been around without failure these past 30 years.

Missed opportunity or future project?

Dear Jan — A while ago I had a go at the USB/RS232 converter item you published (April 2003, Ed.). I gave up at the PCB layout stage, as there were too many via's required under the two small SMT chips — one mounted opposite each other (top and bottom) on PCB. I was going to have another go at the layout, bringing the tracks (and via's) out from under the devices, but have not had the time.

I was interested to see therefore, the approach of Jim Spence in his Swiss Army Knife (September 2004, *Ed.*), where the interface (USB or RS232) could be changed with a different plug in module. This is an ideal solution to the PC Serial Port Legacy problem.

Has Elektor missed an opportunity here? In the original project, the pdf's of the layout were available, but the blank PCB could not be purchased. In this latest project, the USB section is physically part of the entire Swiss Army Knife project.

Why not publish as a project (or just market the pcb's) with the USB interface on it's own? Regarding the PCB, this could be the USB section from the Army Knife project, duplicated 3 or 4 times, to make the pcb production cost worthwhile. I am sure most home engineers would have a need for more than one interface and this pcb would fit the bill, perfectly.

Ian King

An excellent idea which has been copied into our design lab. I'm sure you've noticed that the USB interface for the SAK project does not supply 'real' RS232 levels although that functionality is easily obtained by adding a MAX213 chip.

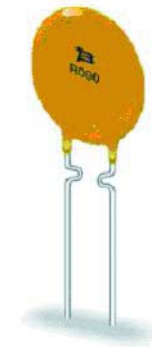
By the way, regarding the 'original' project (April 2003), any PCB that's not supplied by our Readers Services may be obtained from our business partner 'The PCBShop' (EuroCircuits).

Polyswitch

Looking at the components list for the USB UART project (December 2001) I noticed an unfamiliar description '100 mA polyswitch' to identify R2. I believe a resistance value should be expressed in ohms, and I have no idea what 'polyswitch' means. Can you enlighten me and perhaps tell me where such a device can be bought?

M. van Engelenburg

A polyswitch is a PTC (positive temperature coefficient) resistor. In this case, if the device passes a current exceeding 100 mA it will run hot and as a result increase its resistance abruptly from less than 1 ohm to a value in the kilo-ohms range. In this way the polyswitch acts as a current limiter. Once cooled down, its resistance drops again, allowing the current to rise. If you are unable to obtain a real polyswitch, you may substitute an ordinary resistor of 1 ohm. Although this will not provide self-restoring protection, it is better than nothing as the resistor will burn out in response to excessive current flow. A 100-mA fuse will also do although it too is a disposable component!



Regarding availability, polyswitches are stocked by mail order companies like RS Components and Farnell.

Item Tracer in trouble

When launching my EIT (Elektor Item tracer) software I was often greeted by 'overflow' errors. After some researching, the problem could be narrowed down to my version of Microsoft Data Access Components (MDAC). Fortunately, Microsoft have a hotfix available, see Q329414 on microsoft.com: support.microsoft/com/default.aspx?scid=kb;en-us;Q329414. The EIT will run fine and no overflow errors pop up if you use MDAC version 2.7.

Reading AT micros

Dear Editor — triggered by your articles I've just started experiments with Atmel microcontrollers. Is it possible to read code from these devices? Programming is no problem for me. I am using the Elektor 89S8252 Flash Micro board. Do I have to use a separate programmer for each controller type?
M. Verwoord

The AT89S8252 can be read out only if the security bits are not programmed. The software we supply is however unable to read the controller contents. To do this, you need a dedicated reader, for example, B. Kainka's 'atmelips.zip', which may be found at http://b.kainka.bei.t-online.de/basismi.htm (scroll to bottom of page). Our Multi Programmer on USB (June 2004) handles many different microcontrollers including the 89S8252.

IDE disk on USB

Dear Editor — what do you think of this suggestion: a USB2.0 interface for a portable hard disk! Now that looks like the perfect project for Elektor readers as I'm sure many will have old IDE hard drives lying around. As I see it, such an interface should not be too hard to design and dedicated chips are probably available.
(a subscriber)

You may have missed that this type of interface is now widely available from computer shops at prices that defeat any attempt at home construction. As to cost, the interface circuit would probably match the value of the old hard disk and conversely it would be just as expensive as a new external USB hard disk. Consequently, such interfaces are typically bought by people regretting to part with dear old hardware.

NiCd batteries — environment vs. quick profits

Dear Editor — today's rechargeable batteries are vastly superior to the old Nickel-Cadmium units of 30-odd years ago. They have several times the charge density, don't suffer the memory problems, and don't contain highly toxic cadmium. Why, then, do so many products still come to market with NiCd cells in them? What possible advantage do they offer to manufacturer or consumer?
Second question: since NiMH cells have the same voltage and at least twice as much current capacity as NiCd, is it safe to replace NiCd cell packs with NiMH units of similar voltage and size? I'd love to extend the life of my cordless screwdriver, phone, shaver, etc.
George Price, Atlanta, Georgia

NiCd batteries still proliferate (also in new consumer electronics) due to commercial forces. You may have missed that over the past few years the NiCd production process has matured to the extent that impressive capacity (exceeding 2 Ah for AA cells) can be achieved at very low cost. The production of NiCd batteries will be banned soon but considering the vast production capacity (and stocks) of Far Eastern and Chinese battery manufacturers we fear NiCd technology will be around for quite a few years to come.
You cannot charge a NiMH cell with a NiCd charger unless it has an adapted end-of-charge detector. See also the article 'ABC of Rechargeable Batteries' in this issue.

Radio articles resource on the web

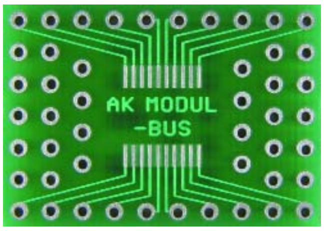
Good morning Jan, it is many years since we last spoke and I submitted articles to Elektor. I hope that you are well. I have recently set up my own business. One element of this is a website that I have run for a number of years. I have recently given it a major overhaul and I am re-launching it. Its aim is to be a resource of free information, articles and data about radio and electronics. The URL is www.radio-electronics.com
Ian Poole

Thanks Ian, the word is being passed on.

I-see adapters

Dear Sir — for those of us that are older who enjoy electronics as a hobby and want to use the smaller format of integrated circuit packages.
I am sure that there many of us who would like to obtain adapter PCBs to convert from ssop to dip, soic to dip, etc., to include the any pins used. Would you consider making available through your PCB Service a selection of the different small packages to DIP 8 pin to 28 pin?
I have noticed in RadioSpares these cost about £5.00 each.
If you know a source for these useful parts I would appreciate their address.
E. Lea

Thanks for the suggestion which has been copied into our design department. Meanwhile, for ICs in TSSOP or SSOP cases with up to 20 pins have a look at the adapter board sold by AK MODUL BUS, www.ak-modul-bus.de



MailBox Terms

- Publication of reader's correspondence is at the discretion of the Editor.
- Viewpoints expressed by correspondents are not necessarily those of the Editor or Publisher.
- Correspondence may be translated or edited for length, clarity and style.
- When replying to Mailbox correspondence, please quote Issue number.
- Please send your MailBox correspondence to:
editor@elektor-electronics.co.uk or
Elektor Electronics, The Editor, P.O. Box 190,
Tunbridge Wells TN5 7WY, England.